

USSR

KOROVIN, V. G. et al., USSR Author's Certificate No 335704

and by fastening the dog of the ratchet mechanism on the rocker arm of the quadric-crank mechanism, which is mounted on the common shaft of the tape-transport mechanism.

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- 30 -

1/2 024 UNCLASSIFIED PROCESSING DATE--20NOV70  
TITLE--TIME OPTIMAL FLAT TURN OF SOLID BODY -U-

AUTHOR--(02)-ANOROV, V.P., KUROVIN, V.N.

COUNTRY OF INFO--USSR

SOURCE--AVTOMATIKA I TELEMEKHANIKA, 1970, NR 4, PP 14-25

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--TIME OPTIMAL CONTROL, SOLID DYNAMICS, FREE PATH, VECTOR,  
VECTOR ANALYSIS, MATHEMATIC ANALYSIS

CONTROL MARKING--NC RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/0594

STEP NO--UR/0103/70/000/004/0014/0025

CIRC ACCESSION NU--APO121263

UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0121263

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THERE IS INVESTIGATED THE PROBLEM OF THE OPTIMAL BY QUICK RESPONSE TURN OF AN ARBITRARY FREE SOLID BODY RELATIVE TO ITS ARBITRARY MOTIONLESS AXIS. IT IS ASSUMED THAT THE PROJECTIONS OF THE VECTOR OF THE CONTROLLING MOMENTUM ON THE MAIN AXES OF THE INERTIA OF A ROTATING BODY ARE RESTRICTED IN VALUE, BUT THE ANGLE VELOCITY BOTH AT THE BEGINNING AND AT THE END OF THE TURN TO THE SET ANGLE IS EQUAL TO ZERO. OPTIMAL CONTROL IS SYNTHESIZED. A NUMERIC EXAMPLE IS GIVEN.

UNCLASSIFIED

USSR

UDC: 620.193.27

KOROVIN, Yu. M., ULANOVSKIY, I. B., Institute of Physical Chemistry, Academy of Sciences of the USSR

"Corrosion of Nickel, Some of its Alloys, and Stainless Steel in Clearances in Sea Water"

Moscow, Zashchita Metallov, Vol 9, No 3, May/Jun 73, pp 309-311

**Abstract:** The authors investigate sea water corrosion of nickel, some nickel alloys and stainless steel in gaps. Over a three month period grade N-1 nickel is corroded in gaps 15 times more intensively than the free surface, the maximum depth of pits being 0.1 and 0.3 mm after 3 and 5 months testing. The increased corrosion in gaps is due to the more negative potential of nickel under these conditions because of reduced oxygen concentration. It was found that Kh23Ni18 steel is considerably less susceptible to corrosion than Kh25 steel, while among the alloys, the most resistant to corrosion is KhN38VT.

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1/2 014

UNCLASSIFIED

PROCESSING DATE--04DEC70  
TITLE--THE STUDY OF PRIMARY PYELONEPHRITIS IN CHILDREN --(1)--

AUTHOR--(05)--MATVEYEV, M.P., IGNATOVA, M.S., KLEMBOVSKYY, A.I., KOROVINA,  
N.A., TEVOSYAN, V.K.  
COUNTRY OF INFO--USSR

SOURCE--PEDIATRIYA 49(2): 34-40. ILLUS. 1970

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--GENITOURINARY SYSTEM DISEASE, KIDNEY, NEPHRITIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/605006/E12 STEP NO--UR/0546/70/049/002/0034/0040

CIRC ACCESSION NO--AT0139810

UNCLASSIFIED

2/2 014

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AT0139810

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PROBLEM OF PYELONEPHRITIS HAS BECOME ONE OF THE PRINCIPLE ONES IN NEPHROLOGY. CLINICAL, LABORATORY, ROENTGENOLOGICAL AND MORPHOLOGICAL CHARACTERISTICS OF 50 CHILDREN WITH AN INFECTIOUS PROCESS IN THE URINARY SYSTEM WERE GIVEN. THE INVESTIGATIONS CONDUCTED MADE IT POSSIBLE TO SINGLE OUT 3 GROUPS OF CHILDREN: THE FIRST GROUP INCLUDED CHILDREN (12) WITH DISTINCT CLINICAL AND ROENTGENOLOGICAL SIGNS OF PYELONEPHRITIS, THE SECOND GROUP INCLUDED CHILDREN (12) WITHOUT ROENTGENOLOGICAL SIGNS OF PYELONEPHRITIS AND MINIMUM BIOCHEMICAL SHIFTS OF THE BLOOD, WHO WERE REGARDED AS PATIENTS WITH AN INFECTION OF THE URINARY SYSTEM. CHILDREN OF THE THIRD GROUP (26), IN WHOM IN SPITE OF THE NORMAL X RAY PICTURE OF THE KIDNEYS ALONGSIDE PROTEINURIA, LEUKOCYTURIA AND BACTERIURIA MARKED SHIFTS OF PROTEIN, LIPID AND MUCOID METABOLISM, A TENDENCY TOWARDS THE TUBULAR FUNCTION WERE OBSERVED, COULD BE REGARDED AS PATIENTS WITH THE INITIAL PYELONEPHROTIC AFFECTION OF THE KIDNEYS. FACILITY: DEP. PEDIAT., CENT. POSTGRAD. MED., MOSCOW, USSR.

UNCLASSIFIED

USSR

KOROVINA, N. P.

"The Construction of Closed Systems of Three Groups of Pairs of Order 12"

Kombinator. Analiz. [Combinatorial Analysis -- Collection of Works], No 2, Moscow, 1972, pp 42-45 (Translated from Referativnyy Zhurnal Kibernetika, No 6, 1973, Abstract No 6V334, by A. Petrenyuk).

Translation: A system of groups of pairs of order  $2\mu$  means a subdivision of sets of disordered pairs of  $2\mu$ -set  $F$  into  $2\mu - 1$  classes (groups of pairs) such that each element from  $F$  is encountered in exactly one pair of each class. The system of groups of pairs is called closed if joining any two of its groups leads to a cycle of a graph constructed in elements of  $F$  using these two groups. Where  $\mu = 5$ , there is a unique (with accuracy to isomorphism) closed system of groups of pairs; where  $\mu \geq 6$ , nothing is known of the number or even the existence of such systems. This article constructs two closed triads of groups of pairs of order 12 (which turned out to be 32 in number) and calculates their groups of automorphisms.

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USSR

UDC 681.3.06:51

KOROVINA, T. I.

"Hierarchical System of Operators for Programming of Text Analysis Algorithm"

Nekotor. Vopr. Avtomatiz. Programmir. [Some Problems of Automation of Programming -- Collection of Works] Novosibirsk, Nauka Press, 1970, pp. 69-93 (Translated from Referativnyy Zhurnal Kibernetika, No. 4, April, 1971, Abstract No. 4 V639 by V. Zhdanov).

Translation: A description is presented of a hierarchical system of operators, designed for programming of a text analysis algorithm. The requirements upon which the system of operators is based are formulated: compactness of writing of programs, clarity of programs, etc. The organization of the operation of the entire system is studied. The result of the operation of the algorithm is establishment of relationships between words in the text and production of certain characteristics of these relationships. A description of logic circuits of operators, 22 in all, is presented, as well as an example of operator recording of a portion of the total algorithm.

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UDC 681.3:51.01:301:164

KOROVINA, T. I.

"Hierarchical Operator System for Programming a Text Analysis Algorithm"

V sb. Nekotor. vopr. avtomatiz. programmir. (Some Problems of Programming Automation -- Collection of Works), Novosibirsk, Nauka Press, 1970, pp 69-93  
(from RZh-Avtomatika, Telemechanika i vychislitel'naya tekhnika, No 2, Feb 71,  
Abstract No 2B85)

Translation: A hierarchical operator system for programming text analysis algorithms and organization of the entire operator system as a whole is described. Organization of the system consists in the fact that at the initial point in time control is transferred to the interpreting program which analyzes the operators in which the algorithm is written, selects the next operator and executes it, transferring control to certain sections of the intermediate program. On completion of operation of the intermediate program, control is returned to the interpreting program. The Martem'yannov analysis algorithm is described in general outlines, and a detailed description of the operators is presented, from which it follows that they have much in common. Therefore, before programming, the operators are subdivided into suboperators. The latter are programmed, and the operator programs are made up of the suboperator

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KOROVINA, T.I., Nekotor. vopr. automatiz. programmir. (Some Problems of Programming Automation -- Collection of Works), Novosibirsk, Nauka Press, 1970, pp 69-93

programs. A description of all the isolated suboperators and the flow charts of the operators in terms of the suboperators are presented. An example of operator notation for part of the general algorithm is investigated. The bibliography has 6 entries.

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1/2 - 032

UNCLASSIFIED

PROCESSING DATE--11SEP70

TITLE--ANNEALING OF LARGE FORGED PIECES OF ROTOR SHAFTS -U-

AUTHOR--BASHNIN, YU.A., KOROVINA, V.M., PAISOV, I.V.

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., CHERN. MET. 1970, 13(1), 151-5

DATE PUBLISHED-----70

K  
SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--METAL FORGING, HYDROGEN, FERROUS LIQUID METAL, SHAFT, TURBINE  
ROTOR, OPEN HEARTH FURNACE, ANNEALING, VACUUM CASTING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1986/1007

STEP NO--UR/0148/70/013/001/0151/0155

CIRC ACCESSION NO--AT0102941

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2/2 032

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--ATO102941

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN ORDER TO VERIFY THE TIME REQUIRED FOR ANNEALING LARGE FORGINGS (50-100 TONS) ONE FORGING OF A SHAFT DIAM. 1120 MM WAS FOLLOWED AS TO TEMP. CHANGES (AT DISTANCE 30, 250, AND 500 MM FROM THE SURFACE) DURING THE WHOLE CYCLE OF HEAT TREATMENT OPERATION. THE EQUALIZATION OF TEMP. TO 630-500DEGREES REQUIRED 27 HR, WHILE TO 890-900DEGREES ONLY 25 HR. COOLING OF THE CENTER TO 240-800DEGREES REQUIRED 80 HR. THE COOLING RATE DEPENDING ON THE DISTANCE FROM THE SURFACE 30 MM TEMP. INTERVAL 900-500DEGREES; COOLING RATE 160DEGREES-HR, TEMP. INTERVAL 500-200; COOLING RATE 18DEGREES-HR; DISTANCE FROM THE SURFACE 500 MM; TEMP. INTERVAL 900-420DEGREES, COOLING RATE 480DEGREES-HR, TEMP. INTERVAL 420-280DEGREES, COOLING RATE 14DEGREES-HR. IN ANOTHER EXPT. STEEL FROM ACID OPEN HEARTH MELTING, AND DEOXIDIZED WITH SI, WAS CAST IN VACUUM INTO 140 TON INGOTS AND ANNEALED WHILE DETN. H: IN LIQ. METAL PRIMEF3-100 G. AS A CONCLUSION IT WAS RECOMMENDED TO SHORTEN THE ANNEALING TEMP. EQUALIZATION TIME FROM 40 TO 27 HR, WHILE THE COOLING IN AIR FROM RECRYSTN. TEMP. WAS SHORTENED FROM 75 TO 45-50 HR.

UNCLASSIFIED

1/2 024

UNCLASSIFIED

PROCESSING DATE--30 OCT 76

TITLE--SYNTHESIS OF POLYCARBONATES MODIFIED WITH SILICON -I-

AUTHOR--(05)-SMIRNOVA, C.V., SIDNEV, A.I., BURAKOVA, T.P., KROVINA, YE.V.,  
KOLESNIKOV, G.S.

COUNTRY OF INFO--USSR

SOURCE--VYSOKOMOL. SOEDIN. SER. A 1970. 12(4). 917-21

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--HYDROXYL RADICAL, BENZENE DERIVATIVE, PROPANE, PHOSGENE,  
ORGANOSILICON COMPOUND, POLYCARBONATE RESIN, POLYSILOXANE, ELASTICITY,  
THERMAL STABILITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/0665

STEP NO--UR/0459/10/012/004/0917/0921

CIRC ACCESSION NO--AP0124337

UNCLASSIFIED

2/2 024

CIRC ACCESSION NO—AP0124337

UNCLASSIFIED

PROCESSING DATE--30OCT77

ABSTRACT/EXTRACT—(U) GP-0— ABSTRACT. THE REACTION OF  
2,2,BIS(4,HYDROXYPHENYL)PROPANE WITH COCL SUB2, ME SUB2 SiCl SUB2, OR  
THEIR MIXTS. IN PYRIDINE,CH SUB2 CL SUB2 GAVE, RESP., A CRYST.  
POLYCARBONATE (I), POLYSILOXANES, OR AMORPHOUS MODIFIED I (III). THE  
INCREASE OF SI CONTENT IN II INCREASED ITS ELASTICITY BUT DECREASED THE  
MELT FLOW TEMP. AND THERMAL STABILITY. FACILITY: MOSK. KHIM.  
TEKHNOL. INST. IM. MENDELEEEVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC: 531.383

BALYASNIKOVA, A. N., KOROVKIN, A. M., PEVZNER, Ye. M., Leningrad Institute  
of Precision Mechanics and Optics

"Calculating the Potential of the Rotor in an Electrostatic Gyroscope"

Leningrad, Izvestiya VUZov: Priborostroyeniye, Vol 16, No 2, 1973, pp 72-77

**Abstract:** A procedure is outlined and expressions are derived for calculating the potential of the rotor of an electrostatic gyroscope in the case of arbitrarily directed displacements of the rotor which are small in comparison with the electrode-rotor gap for geometrically distinct electrode systems. An electrode system classification is proposed which enables determination of the general properties of a given system. In accordance with the proposed classification, conditions are found which guarantee zero rotor potential for electrode systems of various geometry.

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USSR

UDC: 531.383

BALYASNIKOVA, A. N., KOROVKIN, A. M., PEVZNER, Ye. M., Leningrad Institute  
of Precision Mechanics and Optics

"Concerning the Influence of Orthogonal Axes of the Suspension of an Elec-  
trostatic Gyroscope in the Case of Zero Rotor Potential."

Leningrad, Izvestiya VUZov: Priborostroyeniye, Vol 16, No 2, 1973, pp 84-87

**Abstract:** The paper deals with the question of determining the mutual influence of a system of electrodes in a suspension with three mutually perpendicular axes, assuming conditions of zero rotor potential for small rotor displacements. The proposed formulas can be used to derive expressions for the forces acting on all three axes at large rotor displacements as well.

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KOROVKIN, A.M.

COMPUTING THE ROTOR POTENTIAL OF AN ELECTROSTATIC GYROSCOPE  
(UDC 531.14)

Article by A. N. Polyanskiy, A. M. Korovkin, and V. M. Provorov, Institute of Precision Mechanics and Optics, Tashkent, Uzbekistan, published in January 1977, recommended by Chair of Electrical Engineering, Institute of Applied Mathematics

UDC 531.14

In the article the problem of the determination of a rotor potential of an electrostatic gyroscope is considered, with respect to motions of the rotor that are arbitrary with respect to direction and small with relationship to the clearance between the electrode and the rotor. A classification of systems of electrodes is proposed, which makes it possible to determine the general properties of some systems or other. In accordance with the proposed classification, conditions are derived for provision of a zero potential of the rotor for systems of electrodes that differ with respect to geometry.

As is well known, the magnitude of the drift of an electrostatic gyroscope is determined basically by the moments of the forces of electrostatic and magnetic origin. The moments of the forces of the electric field depend upon the potential induced in the rotor, the value of which varies in the motion of the rotor. Thus, for an estimate of the moment acting on the rotor of a gyroscope it is necessary to know the magnitude and the sign of the rotor potential.

The problem of the determination of the rotor potential is considered with reference to a suspension (gimbal) operating on direct voltage, with the following conditions and assumptions: the electrodes are arranged along the three mutually perpendicular axes of the gimbal; the displacements of

The forces are small in comparison with the electro-motor clearances; therefore effects do not exist and the electrical field is localized in the clearance between the electrode and the rotor.



FIGURE 1. CLASSIFICATION OF ELECTRODES. (1) AXIALLY SYMMETRICAL SYSTEMS; 2) ASYMMETRICAL SYSTEMS; 3) CONCENTRIC; 4) NONCONCENTRIC; 5) MIXED.

Systems of electrodes are encountered in practice, providing fast division in the following manner (Figure 1):

(1) axially symmetrical systems--systems in which the dimensions and mutual arrangement of the electrodes along each of the axes of the suspension coincide (Figure 2, a, b);

(2) asymmetrical systems--systems in which, for the purpose of giving certain properties, the dimensions or mutual arrangement of the electrodes along one of the axes of the suspension do not coincide with the dimensions or mutual arrangement of the electrodes along the other axes (Figure 2, c, d).

Depending upon the design formulation of the electrodes, along each of the axes of the suspension, the systems listed above may be: concentric symmetry of all the electrodes, preventing fast suspension of the rotor along the axis of rotation (Figure 2, a);--systems in which the pairs of electrodes provide the forces in the direction of some axis of the suspension are arranged symmetrically relative to this axis, which is also the axis of symmetry of the pairs of electrodes; or mixed (Figure 2, c, d).

Such a classification makes it possible to determine the general properties proper to some system or other of electrodes.

KOROVKIN, A. M.

# Electromechanics

UDC 621.372

JPRS 56238  
12 June 1972

Article by A. N. Babravitskaya & H. Korovkin, Leningrad Institute of Precision Mechanics and Optics, Leningrad, USSR, No. 30, 1971, 12 December 1970, pp. 83-86, claiming to present

Equations are proposed for calculating the capacitance of a spherical electrode-rotor with arbitrary displacement. In the latter, graphs are presented that give the dependences of capacitance on the relative displacement of the rotor for electrodes in the form of a spherical ring and segment.

As we know, information on the position and dimensions of the section of the rotor of an electrostatic gyroscope can be obtained by means of optical, capacitance or inductive sensors. When a capacitance sensor is used change in the position of the rotor of a gyroscope leads to change in the capacitance of the electrode-rotor, and consequently to change of the output signal of the position sensor. However, the displacement derivative of capacitance enters in the expression for the mechanical force acting on the rotor from the electrodes [1]. Therefore the question of deriving an expression for the capacitance of the electrode-rotor as a function of rotor displacement, sufficiently accurate and convenient for practical use, is very important.

In many sources the authors replace the spherical electrode with a flat one [2]. This introduces, as illustrated in [3], considerable error in the expression for capacitance, even for small rotor displacements.

A general expression was derived [3] for determining spherical electrode-rotor capacitance with consideration of the curvature of the surface and displacement of the rotor in an arbitrary direction. The problem, however, was solved for small rotor displacement.

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[X - USSR - F]

"APPROVED FOR RELEASE: 08/09/2001

CIA-RDP86-00513R002201510012-7

1/2 020

TITLE--DETERMINATION OF ASPARTATE AMINOTRANSFERASE ISOENZYMES IN SERUM BY  
AN ENZYMIC ELECTROPHORETIC METHOD -U-

AUTHOR-(03)-DENISENKO, L.N., KOROVKIN, B.F., AMDIY, E.H.

COUNTRY OF INFO--USSR

SOURCE--LAB. DELO 1970, (1), 25-7

DATE PUBLISHED-----70

K  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--HEPATITIS, AMINOTRANSFERASE, GAMMA GLOBULIN, ALPHA GLOBULIN,  
MITOCHONDRION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/1644

STEP NO--UR/9099/70/000/001/0025/0027

CIRC ACCESSION NO--AP0106390

UNCLASSIFIED

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CIA-RDP86-00513R002201510012-7"

2/2 020

CIRC ACCESSION NO--AP0106390

UNCLASSIFIED

PROCESSING DATE--16 OCT 70

ABSTRACT/EXTRACT--(U) GP-0-

A. LATNER (1962) AND OF A. BURGER, ET AL. (1964) ONLY 1 ISOENZYME (CYTOPLASMIC) OF THE TITLE ENZYME WAS DETECTED IN THE BLOOD SERUM OF HEALTHY HUMANS; THIS ISOENZYME HAD AN ELECTROPHORETIC MOBILITY AT PH 8.6 IN AGAR GEL SIMILAR TO THAT OF ALPHA SUB2 GLOBULINS. IN PATIENTS WITH SEVERE BOTKIN'S DISEASE THE ACTIVITY OF THE ISOENZYME WAS HIGHER AND IN LIGHT BOTKIN'S DISEASE ANOTHER ISOENZYME (MITOCHONDRIAL) WITH ADDN.

FACILITY: VOENNOMED. AKAD, IM. KIROVA, LENINGRAD, USSR.

UNCLASSIFIED

USSR

UDC 615.373.03:576.8.077.34

APOSTOLI, L. A., KOROVKIN, V. P., and ENGEL'GARDT, YE. YA., Leninabad  
Regional Sanitary Epidemiological Station

"Use of Agglutinating Sera and Diagnostic Agents"

Moscow, Laboratornoye Delo, No 12, 1971, pp 748-749

**Abstract:** A wide assortment of agglutinating adsorbed sera is used presently by many bacteriological laboratories in studies of the antigenic structure of bacterial cultures. The sera are stored and applied according to established rules and standards. The main shortcoming of some of these methods is an incomplete use of the entire content of a given serum in an ampulla. If the entire content of the ampulla is not used after it is opened, the serum can be contaminated, change its titer, or become dried, especially in dry and hot climates. To eliminate this disadvantage, the use of pipette rubber cups to seal the opened ampulla is suggested. A small hole in the cup can be made with a hot needle for squeezing a required amount of serum from the ampulla. With this method it is possible to protect the serum from over-growth and drying, and to use the entire content of the expensive preparation which is preserved with merthiolate or boric acid. Plastic droppers are also convenient to use for the application and storing of antigens for Widal's reaction. Using and storing preparations by the suggested method is economical, and it eliminates unnecessary work by laboratory personnel.

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USSR

UDC: 621.317.661.325.07(083.6)

KOLTIK, Ye. D., KOROVKIN, V. P., PIASTRO, V. P., KHAN'EL', A. D.

"A Device for Measuring Correlation Functions of Random Processes"

USSR Author's Certificate No 266378, filed 23 Apr 68, published 22 Jul 70  
(from RZh-Radiotekhnika, No 2, Feb 71, Abstract No 2A31.7 P)

Translation: The authors note the comparatively low accuracy of conventional devices of the multiplication type which contain analog-digital converters, multipliers, an integrator and a registration unit. In order to improve accuracy, a device is proposed which is distinguished by the fact that decoders are connected at the output of each analog-digital converter, and a sampling module is connected between the outputs of both decoders and the input of the switching circuit. E. L.

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KOROVNIKOV, K.A.

JPK 5 54767  
72 54C / 97/  
DATA PERTAINING TO THE ISOENZYME CHARACTERISTICS OF BURN SICKNESS AND ANAEROBIC  
LACTIC SHOCK

[Article by A.A. Pokrovskiy, K.A. Korovnikov, Institute of Nutrition, USSR  
Akademy of Medical Sciences, 272001 Moscow, "Sovetsk Akademii Meditsinskikh  
Nauk" SSSR, Russian, No 11, 1971, pp 51-58]

To date the biochemical mechanisms of onset of shock states have not been investigated enough. Most investigations published on this subject deal with processes of energy metabolism, including assay of a number of metabolic systems (I.R. Petrov; F.A. Tigranyan; Yu.Yu. Keyerig et al.; Mironov et al.;

Ershov; A.A. Potrovskiy et al., 1969a, b).

To date there has been no comprehensive information in the literature about the changes in isoenzyme spectra in the presence of different types of shock. Yet it can be assumed that enzymological investigations, especially dealing with tissueular isoenzymes, will be significant in gaining understanding about the mechanism of onset of metabolic changes typically associated with shock.

According to the conceptions we are developing, the presence of genetically determined sets of isoenzymes in the organism is believed to be the result of protein and molecular evolution of proteins directed toward functional differentiation or unspecific systems existing in the organism which are isoenzymous with regard to substrate specificity (A.A. Pokrovskiy and K.A. Korovnikov, 1969-1971). At present functionally different isoenzymes have been found in lactate dehydrogenase, malate dehydrogenase, hexokinase, creatine phosphokinase, and others (Gavash et al.; Sankin; Kepani; Katzen et al.; A.A. Pokrovskiy and K.A. Korovnikov, 1969; and others). For this reason it is logical to assume that in the presence of different states associated with specific reactions and activities of different isoenzymes, there may be qualitative changes and reversely, it would be particularly indicative of their metabolic dissimilarity.

In this light, their functional activity should increase markedly in the presence of actives (E.K. Kulinich; Timmer; G.I. Shreyberg; R.I.

KOROVNIKOV,

K.

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JER 5 55320  
1 May 72

UDC: 616.36-089.873-07:616.36-003.  
91-02-0213 277 616.36-003.

PARTIAL KERATININ  
INHIBITION OF ACTION OF APHATOXIN ON REGENERATED HYPERPLASTIC HUMAN EPITHELIAL CELLS

Article by A. A. Polterovitz, M. M. Shul'yez, N. V. Lazheus, N. M. Gopman, A. Z. Shternberg, D. A. Kostylev, N. N. Olenova, Institute of Radiobiology and Radiochemistry, Institute of Biophysics, N. N. Vorozhtsov Institute of Surrogate Tissue Production, No. 1, 1972, pp. 48-50; English translation by Patrick A. Moore, Medicinal Chemistry Department, Research Triangle Institute, Research Triangle Park, North Carolina 27709.

Present conceptions about the mechanism of action of aphlatoxins (as far as they are reflected in several surveys (Bogun, 1966; Boen, 1966; Kowalewski, 1967; Lichtenova et al., 1972) and experimental articles (Clifford and Kroc, 1966; Lichtenova and Michelson). In case of chronic (acute) material has been accumulated which suggests that one of the mechanisms of toxic action of aphlatoxins (carcinogenic effect on the liver), on the one hand, and marked hepatotoxic and liver-cell effect (on the other) consists of interaction between aphlatoxins and cellular DNA (Clifford and Kroc, 1966). It was shown that aphlatoxins form complexes with DNA molecules through attachment of aromatic and quinone amine groups, so that the benzene-phosphate group of nucleic acid and synthetic nucleotides, i.e., to impairment of transcription processes. The consequences of this disturbance is inhibition of RNA- and DNA-synthesis which, in turn, is associated with rapid and visible changes in the structure of hepatic DNA and RNA synthesis. The latter is demonstrated in the case of a regenerated hypertrophic liver (Lichtenova,

Some factors observed lately to the ribosomal system, consisting of P<sub>1</sub>, P<sub>2</sub> and S<sub>1</sub> units, are those in their specific forms and modes, i.e., P<sub>1</sub> and S<sub>1</sub> units. One could have expected attachment to enzymes protein. This was confirmed in *in vitro* experiments (Pong and Woods, 1968). This was also confirmed in *in vivo* experiments (Woods and Pong, 1968). Yet in vivo experiments failed to demonstrate distinct changes in the structure of isolated precursors in the rat's liver protection following administration of adrenalin (Pong and Woods). In addition, it was demonstrated that both induced blockage and substrate induction by some enzymes (liver and kidney) (Pong and Woods, 1968).

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U24  
TITLE--CHANGES IN THE ISOENZYME SPECTRA OF ORGANS DURING STARVATION -U-  
UNCLASSIFIED  
PROCESSING DATE--16OCT70

AUTHOR--(02)-POKROVSKIY, A.A., KOROVNIKOV, K.A.

COUNTRY OF INFO--USSR

SOURCE--BIOKHIMIYA 1970, 35(1), 159-66

DATE PUBLISHED-----70

K

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--MALNUTRITION, LIVER, KIDNEY, ADRENAL GLAND, BRAIN, HEART,  
ENZYME ACTIVITY, DEHYDROGENASE, ELECTROPHORESIS, ISOENZYME

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAHE--1996/0635

CIRC ACCESSION NO--AP0117861

STEP NO--UR/0218/70/035/001/0159/0160

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001

CIA-RDP86-00513R002201510012-7"

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CIRC ACCESSION NO--AP0117861

UNCLASSIFIED

PROCESSING DATE--16 OCT 70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. LIVER, KIDNEY, ADRENALS, BRAIN,  
HEART, AND OTHER TISSUES WERE ANALYZED FOR GLUCOSE-6-PHOSPHATE  
DEHYDROGENASE (I) AND 6-PHOSPHOGLUCONATE DEHYDROGENASE (III) ACTIVITIES  
AFTER MALE RATS WERE STARVED FOR 44-8 AND 92-120 HR. I ELECTROPHORETIC  
PATTERNS WERE MORE HETEROGENEOUS AND SPECIFIC FOR TISSUES THAN II.  
STARVATION DECREASED BOTH I AND II TOTAL ACTIVITIES AS WELL AS  
ACTIVITIES OF ALL ISOENZYMES, BUT IN THE ADRENALS ENZYMIC ACTIVITIES  
INCREASED. IN INTACT ADRENALS 5 I ISOENZYMES OCCURRED AS A RULE, BUT  
AFTER STARVATION FOR 44-8 AND 92-120 HR NEW I AND II NEW II ISOENZYMES  
APPEARED.

FACILITY: INST. FOOD, MOSCOW, USSR.

UNCLASSIFIED

USSR

K

UDC 621.372.41:621.372.43.01

KOROVYAKOV, P. A., SHIBA, N. Yu., SHUL'GIN, V. I., LUGOLICHENSKIY, V. Yu.

"A Device for Checking the Vibration Resistance of the Carrier Frequency of SHF Oscillators"

USSR Author's Certificate No 965378, Filed 2 Aug 66, Published 6 Apr 70, from RKh-Radiotekhnika, No 10, Oct 70, Abstract No 101435 p)

Translation: This Author's Certificate introduces a device for checking the vibration resistance of the carrier frequency of SHF oscillators. The device contains an SHF receiver with frequency discriminator, an oscillograph and an external sweep oscillator for the oscilloscope. To improve the accuracy of determining the frequency of vibrations of the SHF oscillator, the sweep oscillator is a vibriopickup of the first harmonic of the vibration frequency mounted on the table of the vibrostand. V. P.

1/1

Waveguides

USSR

VANIN, V. V., KOROVYANSKIY, N. N.

UDC 621.374.5(088.8)

"Delay Time Temperature Stabilization Procedure"

USSR Author's Certificate No 275116, Filed 8 Aug 66, Published 6 Oct 70 (from  
RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4G266P)

Translation: A procedure is proposed for temperature stabilization of the delay time in a delay line made of coils with cylindrical ferrite cores and capacitors filled with epoxy compound. In order to eliminate the variation of the thermal coefficient of the coil inductance under the effect of the epoxy compound with variation of temperature, the coils are located in a housing made of insulating material the inside cavity of which is filled together with the coils with thiocol compound.

1/1

Circuit Theory

USSR

KOROZA, V.I.

UDC 621.374.5.09

"On A Theory Of Waves In Delay Systems Loaded With An Electron Beam"  
Radiotekhnika i elektronika, Vol XVII, No 3, Mar 1972, pp 577-586

**Abstract:** The interaction of beams of charge particles with delay systems is studied. The method of investigation is based on linearization of the initial problem which is considered in a hydrodynamic approximation, and in a subsequent reduction to a linear uniform system of ordinary differential equations related to some subsidiary unknowns, connected with the distributions of the wave field and the beam current. In the case of a periodic structure a system of equations with periodic coefficients is obtained which is investigated by the method of perturbations. 12 ref. Received by editors 26 Oct 1970.

1/1

USSR

Waveguides

UDC: 621.372.81

KOROZA, V. I., and STARZHINSKY, V. M.

*"Oscillation Theory Methods in Waveguide System Electrodynamics"*Moscow, Vestnik Moskovskogo Universiteta--Matematika, Mekhanika, No 1, 1971,  
pp 101-110

**Abstract:** This article, presented at a seminar of the Moscow State University Department of Applied Mechanics, 19 November 1969, demonstrates how the theory of oscillations can be applied to some problems of wave propagation in a solid medium if these problems can be approximated by systems with a finite number of degrees of freedom. Specific consideration is given to the problem of wave propagation in periodic electromagnetic waveguides. The authors begin their analysis by considering a three-dimensional region containing a section of the rectilinear z axis, with the boundaries of the region as a metallic surface and two planes parallel to the xy plane. The further assumption is made that all possible cross sections of the given region are simply connected with and bounded by the planes  $z = \text{const}$ . It is stipulated that the field components of the electromagnetic wave vary with time according to the harmonic law, when the problem of computing the field at a given frequency reduces to finding the complex amplitudes of the electric and magnetic fields.

1/1

USSR

UDC 621.385.6

KOROZA, V. I., MAYOROV, Yu. K., SALIN, R. A.

"The Problem of Spatial Harmonics and Partial Flows"

V sb. Uskoriteli (Accelerators -- Collection of Works), No 12, Moscow, Atomizdat,  
1970, pp 205-207 (from RZh--Elektronika i yeye primeneniye, No 10, October 1970,  
Abstract No 10A21)

Translation: An analysis is conducted of equations in the general form for the flow of energy through a delaying system with a period D. It is possible to use the expressions obtained if a further determination is introduced. As a function of the method of extension of the field, the effect of the equation is extended, either at the space interaction only or at all the interior of the delaying system.  
2 ref. V. A.

1/1

1/2 015 UNCLASSIFIED PROCESSING DATE--23 OCT 70  
TITLE--CHEMISTRY OF LONG LIFE FISSION PRODUCT ELEMENTS -U-

AUTHOR--(05)--SINITSYN, N.M., KORPUSOV, G.V., ZAYTSEV, L.M., LEVIN, V.I.,  
SINITSYNA, S.M.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, ATOMIZDAT, 1970, 324 PP

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--NUCLEAR FUEL CYCLE, NUCLEAR FUEL REPROCESSING, FISSION  
PRODUCT, RADIOCHEMISTRY, MONOGRAPH

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/1422

STEP NO--UR/0000/70/000/000/000 1/0324

CIRC ACCESSION NO--AM0121888

UNCLASSIFIED

2/2 015

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AM0121888

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PREFACE 3. INTRODUCTION 4.  
CHAPTER I TECHNOLOGY IN PROCESSING OF NUCLEAR FUEL 12. II CESIUM 49.  
III STRONTIUM 80. IV RARE EARTH ELEMENTS V. ZIRCONIUM AND  
NIOBIUM 180. VI RUTHENIUM 243. VII TECHNETIUM 282. VIII  
REPROCESSING OF WASTE WHICH CONTAINS FISSION PRODUCTS 296. THE BOOK  
DEALS WITH THE PRESENT STATE OF CHEMISTRY OF BASIC RADIOACTIVE LONG LIFE  
ELEMENTS FORMING DURING FISSION OF NUCLEAR FUEL. THE BOOK WAS WRITTEN  
FOR SCIENTISTS AND ENGINEERS WORKING IN THE FIELD OF RADIOCHEMICAL  
TECHNOLOGY. IT CAN BE RECOMMENDED ALSO AS A TEXTBOOK TO COLLEGE AND  
POST GRADUATE STUDENTS OF RADIOCHEMISTRY.

UNCLASSIFIED

1/3 040 UNCLASSIFIED PROCESSING DATE--30 OCT 70  
TITLE--ORBITS OF RADIO METEORS -U-

AUTHOR-[02]-KORPUSOV, V.N., LEDEDINETS, V.N.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, ASTRONOMICHESKIYE VESTNIK, VOL IV, NO 2, 1970, PP 102-107

DATE PUBLISHED-----70

SUBJECT AREAS--BEHAVIORAL AND SOCIAL SCIENCES, ASTRONOMY, ASTROPHYSICS,

NAVIGATION

TOPIC TAGS--METEOR RADIANT, RADAR METEOR OBSERVATION, VELOCITY MEASURING  
INSTRUMENT, MEASUREMENT, ORBIT, METEOROLOGIC RESEARCH FACILITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/0114

STEP NO--UR/0454/70/004/002/0102/0107

CIRC ACCESSION NO--AP0125931

UNCLASSIFIED

2/3 040

UNCLASSIFIED

PROCESSING DATE--30 OCT 70

CIRC ACCESSION NO--APO125931

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SPECIALISTS AT THE INSTITUTE OF EXPERIMENTAL METEOROLOGY (UBNINSK) HAVE DEVELOPED RADAR APPARATUS FOR MEASURING THE VELOCITY AND RADIANT OF INDIVIDUAL METEORS AND BETWEEN SEPTEMBER 1967 AND THROUGH AUGUST 1968 AN ANNUAL CYCLE OF MEASUREMENTS WAS MADE. THIS PAPER DESCRIBES THE APPARATUS AND MEASUREMENT METHOD AND GIVES SOME MEASUREMENT RESULTS. APPARATUS WAS SET UP AT A PRINCIPAL POINT AND TWO OUTLYING POINTS. THE LATTER WERE AT DISTANCES OF 4.9 AND 3.7 KM FROM THE PRINCIPAL POINT. THEIR AZIMUTHS RELATIVE TO THE PRINCIPAL POINT WERE 129 AND 214 DEGREES. THE BASIC PARAMETERS HERE: WAVELENGTH 11.9 M, TRANSMITTER PULSE POWER 75 KW, PULSE REPETITION RATE 500 CPS, PULSE DURATION 20 MU SEC. THE TRANSMITTING AND RECEIVING ANTENNAS WERE IDENTICAL FIVE ELEMENT WAVEGUIDE TUBES SET UP 0.5 LAMBDA ABOVE THE EARTH'S SURFACE. THIS SETUP MADE IT POSSIBLE TO MEASURE RADIANTS AND VELOCITIES OF METEORS BRIGHTER THAN APPROXIMATELY 7 PRIMEM.5. THE OBSERVATIONS WERE MADE DURING THE TIME OF THE ORIONIDS AND GEMINIDS IN 1967 AND THE QUADRANTIDS IN 1968. TABLES 1-3 FOR EACH STREAM GIVE: NUMBER OF DETERMINED ORBITS OF INDIVIDUAL METEORS IN THE STREAM, MEAN EXTRA ATMOSPHERIC VELOCITY, MEAN COORDINATES OF RADIANT AND ORBITAL ELEMENTS OF THE STREAM. SIMILAR DATA OBTAINED BY OTHER AUTHORS ARE GIVEN. THESE TABLES REVEAL THAT THE DETERMINED MEAN VELOCITIES AND ORBITAL ELEMENTS OF ALL THREE STREAMS AGREE WELL WITH DATA FROM PHOTOGRAPHIC OBSERVATIONS. FIGURES 1-3 GIVE THE METEOR DISTRIBUTION FOR THESE STREAMS BY VELOCITIES AND COORDINATES OF RADIANTS.

UNCLASSIFIED

3/3 040

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125931

ABSTRACT/EXTRACT—DURING THE PROCESSING THE MEAN SQUARE ERRORS IN DETERMINING VELOCITIES AND RADIANC COORDINATES OF AN INDIVIDUAL METEOR GROUP WERE: SIGMA SUBV EQUALS PLUS OR MINUS 1.2 KM-SEC FOR MEAN VELOCITIES. SIGMA SUBDELTA EQUALS PLUS OR MINUS 2DEGREES.0 SIGMA SUBDELTA EQUALS PLUS OR MINUS 2DEGREES.0 SEC DELTA. FACILITY: INSTITUTE OF EXPERIMENTAL METEOROLOGY.

UNCLASSIFIED

USSR

UDC 669.14:669.189

DUBROV, N. F., KORROL', V. V., TAT'YANCHSHIKOV, A. G., and  
SOSIPATROV, V. I., Ural Scientific Research Institute of Ferrous  
Metals

"Rimmed Steel With Reduced Content of Manganese"

Moscow, Izvestiya Vysshikh Uchbenykh Zavedeniy -- Chernaya  
Metallurgiya, No 12, 1970, pp 64-66

Abstract: The possibility is shown of reducing the manganese  
content in rimmed steel to 2.2% during high-speed casting  
into large ingots. Casting and rimming of steel in ingot  
molds proceed normally. After rolling, ingots GOST require-  
ments.

1/1

USSR

UDC 539.4:620.169.2

DEMIDOV, G. A., KORSAKOV, B. Ya. (Riga), Riga Institute of Civil Aviation Engineers

"Concerning Step-by-Step Testing for Long-Term Strength"

Kiev, Problemy Prochnosti, No 12, December 1972, pp 17-18

Abstract: The damaging or strengthening of metal materials in the process of routine tests under unsteady force conditions has been studied with considerable detail. However, not many papers treat this question in application to particularities of the behavior of this alloy during single-step tests, connected with the manifestation of strengthening during preliminary loading at low intensities. A "collapse" of long-term strength (weakening of the material) was detected at low values of elapsed preliminary loading time. 1 table, 3 figures, 9 references.

1/1

USSR

UDC 620.197.7

KORSAKOV, K. K., and PUTILOV, V. YE.

"Protective Properties of Liquid Mothballing Lubricants and Inhibitors Under Tropical Conditions"

Moscow, Zashchita Metallov, Vol 6, No 6, Nov-Dec 70, p 744

Translation: Some results of checking the protective properties of mothballing lubricants and inhibitors of atmospheric corrosion under the conditions of a wet tropical climate (the vicinity of Indonesia) are reported.

Samples of SCh 15-32 cast iron, Kh18N9T steel, AMg aluminum alloy, St. 3 steel, M3 copper, 38KhMYuA steel, AMts-9-2 bronze, St. 4S steel, and AV2 brass were stored in bundles in a warehouse and in the open air in wooden crates of various designs.

The following mothballing lubricants and oils were tested: K-17, NG-203A, NG-203V, NG-204u, API-11 (cylinder oil 52 with 5% SPEK inhibitor), and DSP-11 diesel oil with 10% AKOR-1 additive.

After being stored for a year in a ventilated warehouse with packaging in wooden crates, satisfactory results were obtained only when using the K-17 lubricant.

1/2

USSR

KORSAKOV, K. N., and PUTILOV, V. YE., Zashchita Metallov, Vol. 6, No 6, Nov-Dec 70, p 744

When using KTsa inhibitor the bundles were strapped in sheeting impregnated with microwax. A gauze bag with the inhibitor was put inside the casing. The casings were wrapped in wax paper and packed in boxes without sidewalls. Individual corrosion damage was detected on brass, bronze, copper, cast iron, and St. 3, St. 45, and 30KhNYuA steels.

All the materials mothballed in a mixture of GZh-2 contact inhibitor wrapped in wax paper and packed in a box without sidewalls had corrosion damage over 50-100% of the surface.

No visible changes in the wooden crates and packing materials were noted. Rubber packing made impressions on the metal plates.

2/2

KORSAKOV, V. A.

RADIOBIOLOGICAL EFFECTS AFTER 3-YEAR GAMMA IRRADIATION OF DOGS

Article by Yu. G. Grigor'yev, B. A. Markelov, V. I. Popov, E. A. Abramov,

A. V. Slobodchikov, T. P. Tsvetkovskaya, A. V. Sedov, and V. A. Kostylev  
Moscow, Konchashkaya Gloriya i Meditsina, Russian. Vol. 5, No. 1, pp. 27-32, 1972.

submitted for publication 25 March 1971

TRK 55671  
R2 Apr. 1972

**Abstract:** This paper summarizes the results of a three-year radiobiological experiment on dogs. In several experiments series chronic irradiation with varied dose rates (21 to 150 rad per year) and chronic irradiation combined with acute exposures (total doses of 150 rad per year) were applied. Clinical hematological, physicochemical and cytological examinations demonstrated that the animals maintained a satisfactory clinical condition and exhibited no various organic radiation damage. However, a decrease in their compensatory potentialities and a change in their reactivity were noted.

A lack of adequate information in the literature on the biological effects induced by constant exposure to ionizing radiation in the doses possible during prolonged space flights served as a basis for conducting a special experiment on a large number of dogs. The scientific program for the experiment, the irradiation conditions and the results obtained one and two years after beginning this experiment have been published earlier (Yu. G.

Grigor'yev, et al., 1968, 1970).

This paper gives materials obtained after three years of irradiation of the experimental animals. Data on the number of animals, doses and irradiation conditions are given in Table 1.

After three years of the experiment the condition of the animals, evaluated from the results of systematic examinations (inspection, temperature measurement, measurements of body weight, pulse and respiration rates), remains satisfactory. The incidence of disease in the irradiated groups (conjunctivitis, dysuria, etc.) was low and did not exceed the corresponding incidence in the group of control animals.

- 1 -

1/2 017 UNCLASSIFIED PROCESSING DATE--13NOV70  
TITLE--POTENTIOMETRIC METHOD FOR EVALUATING THE EFFECTIVENESS OF ALIPHATIC  
AZOMETHINES AS HEAT STABILIZERS OF ETHYLENE/PROPYLENE COPOLYMERS--II  
AUTHOR--(021)-KORSAKOV, V.G., YURYEVSKAYA, I.M.

K

COUNTRY OF INFO--USSR

SOURCE--PLAST. MASSY 1970, (2), 66-7

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, CHEMISTRY

TOPIC TAGS--AZO COMPOUND, ETHYLENE, PROPYLENE, COPOLYMER, CHEMICAL  
STABILIZER, THERMAL STABILITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1999/0130

STEP NO--UR/0191/15/00070027/0667/0007

CIRC ACCESSION NO--AP0128326

2/2 017

UNCLASSIFIED

PROCESSING DATE--134070

CIRC ACCESSION NO--AP0122396

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECTIVENESS OF AROMATICS AND AZOMETHINES (I) AS HEAT STABILIZERS OF ETHYLENE PROPYLENE COPOLYMER AND EVALUATED POTENTIOMETRICALLY DURING A REACTION OF THE STABILIZER WITH A REVERSIBLE FE PRIME2 POSITIVE OVER FE PRIME3 POSITIVE REDUC SYSTEM IN H SUB2 SO SUB4. THE FINAL VALUE OF THE POTENTIAL WAS COMPARED WITH DATA OBTAINED BY A MILLING METHOD. A PLOT OF NAX. MILLING TIME VS. POTENTIAL INDICATED THAT THE MOST EFFECTIVE I WERE FOUND IN A NARROW DOMAIN OF 50-200 MV, E. G., BENZYLIGENE-P-AMINOPHENOL AND P-DIMETHYLAМИНОБЕНЗАЛЕДХДЕ П АНИЛДИАНЕЛ.

APPROVED FOR RELEASE

UDC 621.762.001(088.8)

USSR

YEVGRAFOV, A. V., KORSAKOV, V. V., SKALDIN, B. A., ALEKSEYEV, G. I., KOZLOVA,  
G. N., and LEVANT, B. G.

"Instrument for Determining Concentration of Magnetic Powder in Suspension"

USSR Author's Certificate No 265554, Cl. 42 1, 13/04, (G01 n), filed 8 Aug  
68, published 26 Jun 70 (from RZh-Metallurgiya, No 3, Mar 71, Abstract No  
3G351P by A. Epik)

Translation: A block diagram is presented and a description given of the working principle and operation of an instrument for determining the magnetic powder content of a suspension. The instrument contains a power unit, generator, buffer amplifier, sensing element, detector, d-c amplifier, and indicator. To increase measurement accuracy, assure linearity of readings, and simplify the scheme of the instrument, it is supplied with a magnetizer in the form of two coaxially situated annular permanent magnets. Two ferroprobe half-cells, connected via the d-c amplifier to the indicator, are installed in the magnet gap perpendicular to the axis of the magnets, with a vessel containing the medium under study mounted in the annular gap of the upper magnet. Two illustrations.

1/1

1/2 022 UNCLASSIFIED PROCESSING DATE--JULY 10  
TITLE--PRACTICAL RECOMMENDATIONS FOR THE USE OF CAPTAX AS A CORROSION  
INHIBITOR -U-  
AUTHOR--(02)-KISELEVA, L.V., KORSAKOVA, L.H.

CCOUNTRY OF INFO--USSR

SOURCE--ENERGFTIK 1970, (1), 6-7

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--CORROSION INHIBITOR, PHTHALIC ACID, STEEL, CORROSION  
RATE/(U)CAPTAX CORROSION INHIBITOR, (U)OP7 CORROSION INHIBITOR, (U)ST20  
STEEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/1151

STEP NO--UR/0091/7D/000/001/0006/0007

CIRC ACCESSION NO--AP0121710

UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--30 OCT 70

CIRC ACCESSION NO--APO121710  
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CAPTAX IN A MIXT. WITH THE OP,7  
INHIBITOR WAS USED DURING THE WASHING OF A HIGH PRESSURE BOILER WITH  
PHTHALIC ACID. THE WASHING SOLN. WAS PREPD. BY THE DISSOLN. OF 120 KG  
OP,7 IN SIMILAR TO 100 L. OF CONDENSATE, THEN ADDN. OF 20 KG CAPTAX AT  
60-70DEGREES, AND MIXING AND HEATING OF THE MIXT. WITH STEAM FOR 1.5 HR.  
THE TOTAL VOL. OF THE SOLN. OBTAINED CONTG. CAPTAX 0.01 AND OP,7  
0.06PERCENT WAS 400 L. THE INHIBITING EFFECT OF THE MIXT. WAS GREATER  
THAN THAT OF A PURE CAPTAX. AND THE CORROSION RATE OF THE ST 20 STEEL IN  
THE 2PERCENT PHTHALIC ACID SOLN. WAS 7-10 G-M PRIME2 HR AT A WASHING  
SOLN. FLOW VELOCITY 1-1.5 M.

UNCLASSIFIED

1/2 041 UNCLASSIFIED PROCESSING DATE--04DEC70  
TITLE--GENERALIZATION OF THE OPERATIONAL CHARACTERISTICS OF A SECTIONAL  
PLASMATRON WITH COMPRESSED CHANNELS -U-  
AUTHOR--(04)-KOSARENKO, V.A., RYABTSEV, YE.I., STELMAKH, G.P., CHESNOKOV,  
N.A.  
COUNTRY OF INFO--USSR

K

SOURCE--ZH. PRIKL. MEKH. TEKH. FIZ.; NO. 1, 115-8 (JAN-FEB 1970)

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--PLASMA ACCELERATOR, VOLT AMPERE CHARACTERISTIC, PLASMA JET,  
FLOW VELOCITY, PLASMATRON

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--3002/0214

STEP NO--UR/0207/70/000/001/0115/0113

CIRC ACCESSION NO--AP0127825

UNCLASSIFIED

2/2 041

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0127825

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE VOLT AMPERE CHARACTERISTICS OF A SECTIONED CHANNEL PLASMATRON WERE DETERMINED AT REDUCED PRESSURES. THE VELOCITY OF THE JET MAY BE INCREASED BY INCREASING THE GAS CONSUMPTION, REDUCING THE PRESSURE, AND IMPROVING THE NOZZLE DESIGN. THE JET DIAPHRAGM PLASMATRON STUDIED CONSISTED OF 6 SECTIONS WITH 20 MM DIAMETER AND 20 MM HIGH CHANNELS. THE 4, 8, 12 OR 16 MM NOZZLE WAS ATTACHED AT THE ANODE SECTION; THE ARGON CONSUMPTION WAS VARIED FROM 0.2 TO 3.5 G-SEC. THE EXPERIMENTAL PRESSURE RANGED FROM 1.33 TIMES 10 PRIME2 TO 1.33 TIMES 10 PRIME3 N-M PRIME2, UPON COMPRESSION IN THE CHANNELS, IT VARIED FROM 1.33 TIMES 10 PRIME3 TO 1.33 TIMES 10 PRIME5 N-M PRIME2. THE ENTHALPY OF THE JET WAS CALCULATED FROM THE THERMAL BALANCE OF THE SYSTEM. THE DATA OBTAINED WERE COMPARED WITH GENERALIZED CRITERIAL RELATIONS. THE FOLLOWING CORRELATION WAS OBTAINED: U EQUALS 1.91 I PRIME NEGATIVE0.1 K PRIME NEGATIVE1.0 D PRIME NEGATIVE1.3, WHEN 10 PRIME2 SMALLER THAN I SMALLER THAN 10 PRIME3, 5 TIMES 10 PRIME3 SMALLER THAN K SMALLER THAN 5 TIMES 10 PRIME2, AND I SMALLER THAN D SMALLER THAN 5, WHEREBY U WAS DERIVED FROM OHM'S LAW, I FROM THE ENERGY EQUATION AND D REPRESENTS THE RATIO OF THE DIAMETERS OF THE CHANNEL AND THE NOZZLE. UNDER CERTAIN CONDITIONS THE RELATIONSHIP BECOMES U EQUALS 0.6 I PRIME NEGATIVE0.2 K PRIME NEGATIVE1.0 D PRIME NEGATIVE1.3 L PRIME0.65, WHEN 0.3 SMALLER THAN L 11.0, WHEREBY L IS A GEOMETRIC FACTOR. THE FORMULA ALLOWS ESTIMATION OF THE OPERATIONAL CHARACTERISTICS OF PLASMATRONS.

UNCLASSIFIED

Metrology, Mapping, Surveying, Graphics

USSR

KORSEN, V. K., PIKKOV, O. M., YARVAL'T, A. E.-I.

"Method of Measurement of Small Differences in Frequencies of Two Signals"

Otkrytiya Izobretmeniya Promyshlennye Obraztsy Tovarnyye Znaki, No 5, 1972,  
Patent No 359606.

Translation: Method of measurement of small differences in frequencies of two signals, based on determination of the increment in phase difference of these signals, not exceeding  $\pi$  during the measurement cycle, and the change in the initial phase of one signal by  $\pi$ , differing in that in order to increase accuracy, interference stability and to simplify the measurement process, an initial phase difference is set less than  $\pi$ , which changes the initial phase of the first signal by  $\pi$  when the phase difference of the input signals exceeds  $\pi$ , while the transmission of pulses of the first signal formed at the moments of its transition through the zero level in two directions control the pulses of the second signal formed at moments of transition through the zero level in one direction, and the difference in summary lengths of the two groups of pulses of signal phase difference formed in sequence, the number of pulses in which is identical, is measured.

1/1

1/2 018 UNCLASSIFIED PROCESSING DATE--20NOV70  
TITLE--THE USE OF PERFORATED CARDS IN HOSPITAL WORK +U-

AUTHOR--KORSENKIY, A.D.

COUNTRY OF INFO--USSR

SOURCE--VOYENNO-MEDITSINSKIY ZHURNAL, NO 3, 1970, PP 13-16

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, BEHAVIORAL AND SOCIAL SCIENCES

TOPIC TAGS--MEDICAL INSTITUTE, PUNCHED CARD, INFORMATION PROCESSING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/0399

STEP NG--UR/0177/10/0007005/0013/0016

CIRC ACCESSION NO--APC1308

REF ID: A6542

2/2 018

UNCLASSIFIED

PROCESSING DATE--2010070

CIRC ACCESSION NO--APO155168  
ABSTRACT/EXTRACT--(U) CP-C- ABSTRACT. THE MEDICAL RECORDS OF A MEDICAL  
INSTITUTION CONSISTS MAINLY IN THE SELECTION AND SUMMATION OF NECESSARY  
DATA FROM REPORT CARDS (FORM NO. 101) AND HISTORIES OF DISEASES. THIS  
WORK TAKES MUCH TIME AND MECHANICAL ERRORS OFTEN ARE ALLOWED IN IT.  
THE USE OF PERFORATED CARDS WITH MARGINAL PERFORATION CONSIDERABLY  
REDUCES EXPENDITURES OF TIME ON THE COMPIRATION OF A REPORT AND FREES IT  
OF ERRORS. THE MAIN CONDITION OF SUCCESSFUL WORK WITH PERFORATED CARDS  
IS THE CORRECT COMPIRATION OF THE CODE, AS WHEN IT IS CHANGED CARDS  
COMPLETED EARLIER BECOME USELESS. FOR CODE COMPIRATION, BESIDES  
KNOWLEDGE OF THE PRINCIPAL METHODS OF CODING, ONE SHOULD DISTINGUISH THE  
CATEGORIES AND THE NUMBER OF PRINCIPAL UNITS OF INFORMATION NEEDED FOR  
THE REPORT. CODES FOR PERFORATED CARDS ARE SELECTED ACCORDING TO THE  
PROFILE AND VOLUME OF WORK OF THE MEDICAL INSTITUTION.

UNCLASSIFIED

UDC 621.777.07

USSR

GUN, G. Ya., POLUKHIN, P. I., YAKOVLEV, V. I., GOLOVINOV, M. F., FRUDKAVSKIY,  
B. A., KORSETSKIY, G. M., RYZHOV, A. F., and BRUNILIN, A. T.

"Optimal Die Designing for Pressing Aluminum Alloys"

Plasticheskaya Deformatsiya Metallov i Splavov, Moscow, No 64, "Metallurgiya,"  
1970, pp 139-199

Translation: Questions of optimal die designing are considered using a  
computer. On the basis of statistical processing of a number of existing  
dies and theoretical and experimental research, a method is proposed for  
calculating the working belts and location of the center of gravity of a  
section on the die. Five figures and three tables.

1/1

- 29 -

USSR

UDC 658.5-62.503.55

ALIYEV, T. M., Dr Technical Sciences, Engineers KAPLAN, G. A., KORSH, R. S.,  
and SEYDEL', L. R.

"One Approach to Optimization of Continuous Production Processes"

Moscow, Pribory i Sistemy Upravleniya, No 10, 1971, pp 5-6

**Abstract:** An attempt is made to formulate and solve a problem of stochastic programming associated with the random character of applying the solution abstracted from the random character of the coefficients of the problem. This approach permits the researcher to: (1) find solutions in the application of which the given system of limitations is satisfied with slight errors; and (2) evaluate, from the viewpoint of satisfying the assigned limitations, the degree of influence exerted by measurement accuracy on the specific function, which procedure, in turn, makes it possible to formulate feasible requirements for accuracy of the measuring instruments. This article is concerned with solving the first problem. The authors give the requirements and solve the problem mathematically.

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1/2 014 UNCLASSIFIED PROCESSING DATE--11SEP70  
TITLE--DEVELOPMENT OF A MATHEMATICAL MODEL OF PYROLYSIS IN A REACTOR WITH  
A RISING FLOW OF HEAT CARRIER -U-  
AUTHOR--ABDULLAYEV, F.M., ZAFERMAN, D.M., KORSH, B.S., MAZIN, M.B.,  
TMENOV, D.N.  
COUNTRY OF INFO--USSR  
K  
SOURCE--KHIM. TEKHNOL. TOPL. MASL. 1970, 15(3), 40-2  
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, PROPULSION AND FUELS

TOPIC TAGS--CHEMICAL REACTOR, MATHEMATIC MODEL, PYROLYSIS, DIESEL FUEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1790/2038

STEP NO--UR/0065/T0/015/003/0040/0042

CIRC ACCESSION NO--A00109970

UNCLASSIFIED  
Zzzzzzzzzz

2/2 014

UNCLASSIFIED

PROCESSING DATE--11SEP70

CERC ACCESSION NO--AP0109970  
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PYROLYSIS OF A DIESEL FUEL  
FRACTION, B. 253-354DEGREES, FREE OF AROMATIC HYDROCARBONS, WITH QUARTZ  
SAND AS HEAT CARRIER, WAS STUDIED IN A PILOT PLANT. A CORRELATION  
MATRIX WAS USED AS CRITERION FOR THE DEGREE OF ORTHOGONALITY OF THE  
DESIGN MATRIX. THE OPTIMAL OPERATING CONDITIONS WERE DETERMINED BY MEANS OF  
2ND ORDER EQUATIONS.

|||||

UNCLASSIFIED

KORSH, L. Ye.

TPRS 55-320  
1 Mar 72  
UIC: 616.9-078

SANITARY MICROBIOLOGICAL RESEARCH DEALING WITH PREVENTION OF BACTERIAL AND VIRAL INFECTIONS  
[Article by L.Ye. Korsh, G.A. Seregin'ya, N.V. Vladavskiy, Yu.C. Talyayev,  
Yu.I. Lantsevich, V.Z. Aksyonov, E.I. Dzhilyayev (Moscow), V.A. Tikhonov,  
Candidate of Medical Sciences, Institute of Hygiene, Health Service, Academy of Medical Sciences of the USSR, Moscow, pp. 71-76]  
[1, 1972, no. 1]

One of the decisive factors in nonspecific prophylaxis of bacterial and viral infections is institution of health improving hygienic measures. Proper development of first and foremost sanitary measures is determined largely by the results of systematic sanitary microbiological investigations of environmental objects (water, air in buildings, soil).

Sanitary microbiology which has been studying the quality of drinking water and sanitary state of reservoirs, soil, and air, jointly with hygienists, have developed sensitive methods and accumulated extensive experimental and factual data, which permitted rationalization of norms that are used in routine sanitary practice to regulate the quality of water.

From the standpoint of prevention of intestinal infections, improvement of routine methods of testing the quality of water and sanitary condition of reservoirs with respect to bacterial contamination is becoming very important. One of the directions of work in this area is enumeration of the causative microorganisms responsible for isolation of the E. coli group of bacteria as indicators of fecal pollution of waters. For this purpose, community isolates of bacteria included in the E. coli group were examined, on the basis of determination of lactose at 45°, according to the International Standard. During several years in different countries, some of the bacteria in reservoirs of different types and with different methods of pollution, as was established, the lactose test gave false and erroneous results between bacteria that are fermentative and water bacteria. This was considered not only for the reasons given above, but also for the fact that the quality of water in reservoirs with fecal contamination, in most cases, is characterized by lactose-positive variants of heterotrophic bacteria, isolated on lactose media at temperatures of 27° and demonstrated best by the method of membrane filters (i.e.

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UDC 628.312.3:628.445]:543.3

KORSH, L. Ye., Candidate of Medical Sciences, YURASOVA, O. I., Candidate of Medical Sciences, NIKONOVA, A. G., and MOTOVA, M. A., Institute of General and Communal Hygiene imeni A. N. Sysin, Academy of Medical Sciences USSR, Moscow

"Utilization of C<sup>14</sup> for Rapid Determination of the Number of E. Coli in Water"

Moscow, Gigiyena i Sanitariya, No 9, 1971, pp 78-81

**Abstract:** In the new method, the concentration of E. coli in water samples is determined by means of a radioactive count of the CO<sub>2</sub> produced by bacteria suspended in a medium containing C<sup>14</sup>-tagged glucose. The method was tested by adding a known number of bacteria (from 10 to 10,000) to metal containers with radioactive Endo and Rozolov media, incubating the samples at 42°C for 6 hours, removing the Ba(OH)<sub>2</sub> saturated filter with which the containers were covered and which absorbed CO<sub>2</sub>, and determining the radioactivity of the filters. To correct for background activity, filters placed over sterile media were also measured. The plotted results yielded a linear correlation between bacterial concentration and radioactive counts. The small difference between the two media was due to the fact that CO<sub>2</sub> is less soluble in Endo medium than in Rozolov medium. Then bacterial concentrations in unknown water samples

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KORSH, L. Ye., et al., Gigiyena i Sanitariya, No 9, 1971, pp 78-81

were determined by the new method and by the standard culture method. The results differed by a factor of 1.5. Microbiological counts are known to vary as much as 200%. The new method is sensitive to within 10 bacteria in the Endo medium and 30-40 bacteria in the Rozolov medium, and the total procedure takes less than 7 hours. The radioactive method is recommended as reliable and convenient.

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USSR

UDC 911.3.616.9:597.6(571.18)

KORSH, P. V., RAVDONIKAS, O. V., MAL'KOV, G. B., VORONIN, Yu. K., ZIMINA,  
V. Ye., KOSTYUKOV, V. P., IVANOV, V. S., FEDOROVA, T. N., YEGOROVA, L. S.,  
RUDAKOV, V. A., CHULOVSKIY, I. K., and SHAYMAN, M. S.

"On Carrier Characteristics and Contacts With Vectors of Viral and  
Bacterial Infections Among Omskaya Oblast Wild Animals"

V sb. Vopr. infekts. patol. (Problems of Infection Pathology -- collection  
of works) Vyp. 2, Omsk, 1970, pp 75-78 (from RZh-Meditsinskaya Geografiya,  
No 4, Apr 71, Abstract No 4.36.51)

Translation: A table is presented of species composition of oblast wild  
animals and their relative population by individual landscape subzones in  
Omskaya oblast (64 species). Transmission of infections with natural foci  
was established in 27 species for the following diseases: tickborne  
encephalitis, Omsk hemorrhagic fever, rabies, tickborne scrub fever,  
Q fever, tularemia, erysipelas, toxoplasmosis, and leptospirosis.

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USSR

UDC 541.64:543.872

DAVANKOV, A. B. (deceased), LEYKIN, Yu. A., SMIRNOV, A. W., SLOZHENIKINA,  
T. Ya., and KORSHAK, V. V., Moscow Chemical Technological Institute imeni  
D. I. Mendeleev

"Investigation of the Thermooxidative Destruction Processes of Some  
Phosphorus Containing Ion Exchange Resins"

Moscow, Vysokomolekulyarnyye Soyedineniya, Vol 15, No 11, Nov 73, pp 2446-  
2452

**Abstract:** Some phosphorus-containing cationic and amphoteric ion exchange resins were studied by means of thermal analysis. The mechanism of decomposition of phosphorus containing ionogenic groups has been investigated by a combination of thermal analysis, IR-spectroscopy, potentiometric titration, paper chromatography and elemental analysis data of the dry residue of the pyrolytic products. It was established that the amphoteric ion exchange resin decomposes by a mixed mechanism including reactions of free phosphonic and phosphonous acid groups in the intralayer form.

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USSR

UDC 541.26'.118

VOLODIN, A. A., KIREYEV, V. V., KORSHAK, V. V., and FOMIN, A. A.

"Synthesis and Investigation of Pentaarylhydroxyhydroxydialkoxyphosphazocyclotriphosphazotrienes"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 10, Oct 73, pp 2206-2211

**Abstract:** A series of pentaarylhydroxyaminocyclotriphosphazotrienes has been synthesized and converted to respective trichlorophosphazocompounds by Kirsonov reaction; alcoholysis of the latter gave a series of pentaarylhydroxyhydroxydialkoxyphosphazocyclotriphosphazotrienes (I). The structure of the compounds synthesized was proposed on the basis of IR and NMR  $^{31}\text{P}$  spectral data. A correlation has been shown to exist between the pKa values of (I) in alcohol and Taft's  $\sigma^*$  constants of the alkyl substituents. The substituents at the phenyl ring showed no effect on the value of pKa.

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UDC 541.26.118

(1)

VOLODIN, A. A., KIREYEV, V. V., FOMIN, A. A., YEDELEV, M. G., and KORSHAK,  
V. V., Corresponding Member Academy of Science USSR, Moscow, Chemico-Tech-  
nological Institute imeni D. I. Mendeleev, Moscow

"Synthesis and Study of Pentaaryloxyfluorocyclotriphosphazotrienes"

Moscow, Doklady Akademii Nauk SSSR, Vol 209, No 1, 1973, pp 98-100

**Abstract:** Pentaaryloxychlorocyclotriphosphazotrienes (I) with aryl groups  $RH_4C_6$ , where R = H, p-MeO, p-Me, m-MeO, m-Me, were prepared according to E. T. McBee et al., Inorg. Chem., 5, 450, 1966. By treating compounds I with potassium fluorosulfinate in  $O_2$ MPh, the corresponding mono fluoro derivatives (II) were prepared :  $P_3N_3(C_6H_4R)_5Cl + KSO_2F \rightarrow P_3N_3(OC_6H_4R)_5F + KCl + SO_2$ .  $KSO_2F$  was obtained by treating KF with liquid  $SO_2$ . The physical properties of compounds II were determined (table) and their nuclear ( $^{31}P$  and  $^{19}F$ ) magnetic resonance spectra studied.

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033 UNCLASSIFIED PROCESSING DATE--02/06/70

TITLE--CORROSION RESISTANCE OF A STEEL ALUMINUM CLAD METAL -U-

THOK-(C5)-LEVIN, A.I., FSHCHENKO, V.F., LAZAREV, V.F., ZASUKHA, P.F.,  
KORSHCHIKOV, V.O.

UNTRY OF INFO--USSR

JFCE--ZASHCH. METAL. 1970, 6(1), 39-41

TE PUBLISHED-----70

OBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

PIC TAGS--CORROSION RESISTANCE, METAL CLADDING, COLD ROLLING, ALUMINUM,  
STEEL, DIMETAL

CONTROL MARKING--NO RESTRICTIONS

CUMENT CLASS--UNCLASSIFIED

XY ROLL/FRAME--1592/0751

STEP NO--UR/0365/70/005/011/0039/0041

RC ACCESSION NO--A20111944

UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--02OCT70

RC ACCESSION NO--APO111944  
STRACT/EXTRACT--(U) GP-0- ABSTRACT. CORROSION RESISTANCE OF AL CLAD STEEL WAS TESTED IN 3PERCENT NACL AND 0.5PERCENT NaOH SOLNS. THE CLAD METALS (TOTAL THICKNESS 1.2 MM) WERE OBTAINED BY COLD ROLLING AND THEN ANNEALING AT 560 PLUS OR MINUS 100 DEGREES FOLLOWED BY SLOW COOLING TO 200DEGREES. AL USED FOR THE CLADDING LAYER CONTAINED Fe 0.1, Cu 0.07, Ti 0.003, AND Mn 0.01PERCENT AND THE THICKNESSES OF THE CLADDING LAYERS WAS 20-25, 40-45, 84-90, AND 130-140 MU. THE RESISTANCE OF THE CLADDING METAL ALONE (1.2 MM THICK) WAS ALSO INVESTIGATED; STEADY STATE POTENTIALS WERE RECORDED FOR ALL CLAD METALS. THE MOST RESISTANT TO THE EFFECT OF THE MEDIUM WAS THE CLADDING METAL ALONE; DECREASE IN THE THICKNESS OF THE CLADDING METAL ALONE; DECREASE IN CLAD METAL CORROSION RESISTANCE; THIS CAN BE EXPLAINED BY THE PRESENCE OF SMALL AMTS. OF Fe INCLUSIONS IN THE AL LAYER INTRODUCED MECH. DURING ROLLING AND BY DIFFUSION DURING HEATING.

USSR

UDK: 621.771.08

ZASUKHA, P. F., KORSHCHIKOV, V. D., BUKHVALOV, O. B., and WEYSHOV, A. A.

"Bimetallic Rolled Products"

"Bimetallicheskiy Prokat" [English Version Above], Moscow, Metallurgiya Press, 1971, 264 pages

Translation of Annotation: This book presents the properties and area of application of bimetallic rolled products made from steel and non-ferrous metals.

The results of theoretical and experimental studies of the process of joint plastic deformation of dissimilar metals, the specifics of bonding of the metals, and the effect of technological factors on the bonding strength of the layers and the mechanical and operational properties of bimetals are studied. Parameters of the technology and equipment for production of bimetals by the packet and roll methods in the hot, warm, and cold states are presented. Methods of quality control of bimetallic rolled products are described.

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USSR

ZASUKHA, P. F., et al., "Bimetallichесkiy Prokat," Moscow, Metallurgiya Press, 1971, 264 pages

The book is designed for engineering and technical workers of plants and scientific research and planning institutes involved in the development, production, and application of bimetallic materials. It may be useful to students and graduate students of technical schools.

108 figures; 59 tables; 183 biblio. refs.

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USSR

ZASUKHA, P. F., et al., "Bimetallicheskij Prokat," Moscow, Metallurgiya Press, 1971, 264 pages

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ZASUKHA, P. F., et al., "Bimetallicheskij Prokat," Moscow, Metallurgiya Press, 1971, 264 pages

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ZASUKHA, P. F., et al., "Bimetallichесkiy Prokat," Moscow, Metallurgiya Press, 1971, 264 pages

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Soviet Inventions Illustrated, Section II Electrical, Derwent, i/70

239439 NUMERICAL WATT METER consisting of an encoder  
of voltage into frequency (1), logic block  
(2) encoding the sign of the voltage-current product,  
blocks (3), (4) of transfer of momentary value of  
current, analogue-numerical transducer (5), trigger  
circuit (6), adder (8) and counter (10). The watt  
meter improves accuracy of measurement in the high  
frequency band.

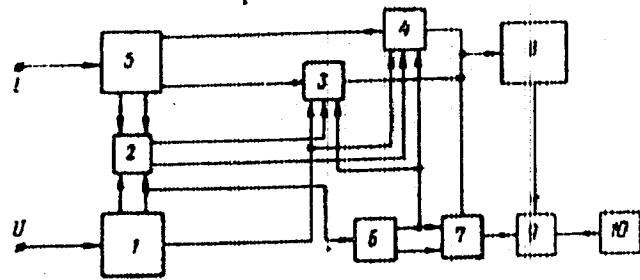
13.2.67 as 1133859/26-10. I.I. KORSHEVER & P.M.  
TSAPENKO. AUTOMATION & ELECTROMETRY INST. SIBERIAN  
SECT. ACAD. SCIENCES USSR. (24.7.69) Bul 11/18.3.69.  
Class 21e. Int.Cl.G 01r.

Institut Automatiki i Elektrometrii Sibirskogo Otdeleniya AN SSSR

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USSR

UDC 516.21.391

KORSHIK, V. I., and YANYSHEV, SH. T.**"The Bounds of Error Probability for Analog Decoding in Gaussian Channels"**

Tashkent, v sb. Vopr. kibernetiki (Problems in Cybernetics --- collection of works), No 45, 1971, pp 156-180 (from RZh-Matematika, No 6, 1972, Abstract No 6V361)

Translation: Words in a binary code  $(n, k)$  with an alphabet  $(1, -1)$  and a minimum Hamming distance  $d_{\min}$  are transmitted along a semi-continuous channel with additive noise having a Gaussian distribution  $(0, \sigma^2)$ . The upper bounds of the decoding error probability for optimum reception "as a whole" are determined. A comparison is made of the decoding error probability for the given code in reception "as a whole" and in "element by element" reception.

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USSR

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UDC 539.292

ANNAYEV, R. G., KORSHIK, Yu. G., LAKCUYEV, D. Kh.

"Variation With Temperature of the Electrical Resistance of Cobalt-Vanadium Alloys  
in a Longitudinal Magnetic Field"

Izvestiya Akademii Nauk Turkmenskoy SSR, Seriya Fiziko-Tekhnicheskaya, Khimicheskaya i Geologicheskaya, No 1, 1970, pp 105-109

Abstract: The article deals with an investigation of the variation with temperature of the longitudinal galvanometric effect in ferromagnetic binary alloys of cobalt with vanadium, on the basis of polycrystalline specimens.

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USSR

UDC 533.697.3.001.24

VINOGRADOV, B. S., and KORSHIN, I. M. Candidates of Technical Sciences

"Calculation of Flow in a Vaneless Diffuser With Allowance for Reverse Currents"

Leningrad, Energomashinostroyeniye, No 12, Dec 71, pp 20-24

**Abstract:** An attempt is made to calculate airflow in a vaneless diffuser based on the gas-dynamic flow model developed at Kazan' Aviation Institute but under the assumption that reverse currents form a layer uniformly distributed along a circle, so that the flow retains axial symmetry. In using the hydrodynamic flow scheme, a method has to be developed for calculating three-dimensional flow, permitting determination of the flow velocities and angles along the width on any radius and the velocities and pressure on the boundary of the overflowing layer.

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USSR

UDC 613.63

KORSHUN, M. N., UVARENKO, A. R., Chair of Labor Hygiene and Occupational Diseases,  
Kiev Medical Institute

"The Concept of Sources of Primary and Secondary Introduction of Toxic Substances  
Into the Air of the Work Zone"

Moscow, Gigiiena i Sanitariya, No 6, 1970, pp 66-68

Abstract: Pollutants are distinguished on the basis of their relationship to the technological process used in a particular type of production. Raw material, intermediate and final products, toxic substances and solutions that are essential constituents of the process as well as the wastes directly caused by the latter are considered sources of primary air pollution. On the other hand, those products not directly related to the technological process and not essential components of it are sources of secondary pollution. The sources of primary pollution precede in time the formation of the sources of secondary pollution, and the presence of the former results in the introduction of toxic substances into the air of the work zone. Secondary sources include residual motion of toxic substances, technological solutions containing admixtures of toxic substances, etc., which pollute the surface of equipment and floors or which become retained in structures, furnishings, and protective clothing.

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UNCLASSIFIED

PROCESSING DATE--16OCT70

TITLE--HYGIENIC IMPORTANCE AND CLASSIFICATION OF SOURCES FOR MERCURY  
DEPOSITED IN CONSTRUCTION ELEMENTS -U-

AUTHOR--KORSHUN, M.N.

COUNTRY OF INFO--USSR

SOURCE--GIGIYENA TRUDA I PROFESSIONAL'NYYA ZABOLEVANIYA, 1970, NR 5, PP

8-12

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, MECH., IND., CIVIL AND  
MARINE ENGR  
TOPIC TAGS--MERCURY, HYGIENE, AIR POLLUTION, CONSTRUCTION MATERIAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1995/0453

STEP NO--UR/0391/70/000/005/000B/0012

CIRC ACCESSION NO--APO116119

UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--APO116119

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. INVESTIGATIONS CARRIED OUT IN THE FIELD FURNISHED GROUNDS FOR THE AUTHOR TO MAKE HYGIENIC EVALUATION OF MERCURY DEPOSITED IN STRUCTURAL ELEMENTS OF BUILDINGS AS A SOURCE OF SECONDARY CONTAMINATION OF THE ATMOSPHERE WITH ITS VAPOURS. A CLASSIFICATION OF SOURCES FOR DEPOSITED MERCURY IS OFFERED, DEPENDING UPON THE CONTENT OF THE TOXIC SUBSTANCE AND THE DEPTH IN THE MIDST OF STRUCTURAL ELEMENTS TO WHICH IT PENETRATES. RECOMMENDATIONS ELABORATED FOR "FINAL DEMERCURIZATION" WILL BE PRESENTED IN THE FORM OF AN INSTRUCTIVE METHODOLOGICAL LETTER.

FACILITY: MEDITSINSKIY

INSTITUT.

UNCLASSIFIED

Acc. Nr: AP0044017

Ref. Code: UR 0240

PRIMARY SOURCE: Gigiyena i Sanitariya, 1970, Nr 2, pp 30-34

ON THE AUTONOMOUS HYGIENIC SIGNIFICANCE  
OF SECONDARY POLLUTION OF THE ATMOSPHERE  
WITH MERCURY VAPOURS

M. N. Kurshev

As established, high mercury vapour concentrations exceeding maximum permissible ones ( $0.01 \text{ mg/m}^3$ ) can be maintained in the air due to the pollution coming from the secondary source for a long time after discontinued handling of mercury. In persons who stayed for a long time in premises which had been the scene of mercury handling primary functional disturbances of the central nervous system developed in 57.1% of cases. The paper lists some measures aimed at preventing secondary pollution of the air with mercury vapours.

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426

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REEL/FRAME  
**19770454**

USSR

UDC 51:621.591

KORSHUNOV, A. D.

"Invariant Properties of Finite Automata"

Diskretn. Analiz. [Discrete Analysis--Collection of Works], No 16, Novosibirsk, 1970, pp 51-76, (Translated from Referativnyy Zhurnal Kibernetika, No 5, 1971, Abstract No. SV441 by G. Blokhina).

Translation: Let  $U(m, n, k)$  be the set of all pairwise different fully defined  $M$ -ill automata within input letter  $x_1, x_2, \dots, x_m$ , output letters  $y_1, y_2, \dots, y_n$  and internal states  $q_1, q_2, \dots, q_k$ . Let  $L(n, n, k)$  be the number of classes of equivalence generated by the relationship of isomorphism with respect to states for automata from  $U(m, n, k)$ . Property E of automata  $U(m, n, k)$  is called invariant if it satisfies the following requirements: (1) If automaton A has property E, this property is true for all isomorphic automata, (2) automaton A has property E when and only when all initial automata produced from A by fixation of an arbitrary state as the initial state have this property. The class of equivalence has invariant property E if all automata of this class have property E. The set of automata from  $U(m, n, k)$  having property E is represented by  $U_E(m, n, k)$ , while  $L_E(m, n, k)$  represents the set of classes of equivalence from  $L(m, n, k)$  having property E. The author is interested in the question of the behavior of  $|L_E(m, n, k)| / |L(m, n, k)|$ , if the portion of automata from  $U(m, n, k)$  having property E is known. (Here  $|B|$  represents the power of set B).

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USSR

UDC S1:621.391

KORSHUNOV, A. D., Diskretn. Analiz., No 16, Novosibirsk, 1970. pp 51-76.

This article establishes the following facts:

Theorem 1. Suppose  $m = \text{const} \geq 2$ ,  $n = \text{const} \geq 1$ ,  $\epsilon = \epsilon(k)$  is an arbitrary function satisfying inequality  $0 < \epsilon \leq \frac{1}{4}$ , and  $E$  is an invariant property such that within a sufficiently large  $k$  is  $|U_E(m, n, k)|/|U(m, n, k)| \geq 1 - \epsilon$ . Then as  $k$  approaches infinity,  $|L_E(m, n, k)|/|L(m, n, k)| > 1 - \delta(\epsilon)$ , where  $\delta(\epsilon) =$

$$\begin{aligned} &= \epsilon + 2\epsilon \frac{1 - \frac{2}{\log \log \frac{1}{\epsilon}}}{\log \log \frac{1}{\epsilon}} + \frac{2}{\left(2 \left[ \frac{\log \epsilon^{-1}}{\log \log \epsilon^{-1}} \right] \right)! e^{\frac{2 \left[ \frac{\log \epsilon^{-1}}{\log \log \epsilon^{-1}} \right]}{\log \log \epsilon^{-1}}}} + \\ &+ o(1). \end{aligned}$$

Theorem 2. In order for almost all automata from  $U(m, n, k)$ ,  $m = \text{const} \geq 2$ ,  $n = \text{const} \geq 1$ , to have invariant property  $E$ , it is necessary and sufficient that property  $E$  be true for almost all classes of equivalence from  $L(m, n, k)$ .

Theorem 3. Suppose  $m = \text{const} \geq 2$ ,  $n = \text{const} \geq 1$ ,  $\epsilon = \epsilon(k)$  is an arbitrary function satisfying the inequality  $0 < \epsilon \leq \frac{1}{4}$ , and  $E$  is an invariant property such that within a sufficiently large  $k$

$$|U_E(m, n, k)|/|U(m, n, k)| > 1 - \epsilon.$$

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USSR

KORSHUNOV, A. D., Diskretn. Analiz., No 16, Novosibirsk, 1970, pp 51-76.  
UDC 51:621.391

Then

$$|L_E^{(m)}(m, n, k)| / |L^{(m)}(m, n, k)| > 1 - 1.02\delta(\epsilon),$$

where

$$\delta(\epsilon) = \epsilon + 2e^{\frac{2}{1 - \log \log \epsilon^{-1}}} +$$

$$+ \frac{2}{\left(2 \left[ \frac{\log \epsilon^{-1}}{\log \log \epsilon^{-1}} \right] \right)!} e^{\frac{8}{\log \log \epsilon^{-1}}} + o(1).$$

Theorem 4. In order for almost all automata from  $U(m, n; k)$ ,  $m = \text{const} \geq 2$ ,  $n = \text{const} \geq 1$  to have invariant property E, it is necessary and sufficient that almost all classes of equivalence from  $LIN(m, n, k)$ , have property E.

A number of results are also produced which are of practical interest.

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Acc. Nr: AP0051906

Ref. Code: 0R0475

PRIMARY SOURCE: Vrachebnoye Delo, 1970, Nr. 2, pp. 17-20

PHYSICO-CHEMICAL CHARACTERISTICS OF THE GASTRIC JUICE  
IN PATIENTS WITH ULCER DISEASE AND CHRONIC GASTRITIS

A. P. Korshunov (Dnepropetrovsk)

Electrical indices, acidity and microelements of the gastric juice before and after administration of a stimulant were studied in 50 patients with ulcer disease and chronic gastritis.

The character of changes of the electrical indices, acidity and microelements of the gastric juice were found to be different in the above two pathological entities. An inverse proportional dependence is observed between acidity, microelements and electrical indices of the gastric juice.

It is recommended to use the above data in combination with other methods in the differential diagnosis of gastric and duodenal diseases as well as for evaluation of the efficiency of treatment.

REEL/FRAME  
19820389

1/2 021

UNCLASSIFIED

PROCESSING DATE--04DEC70

TITLE--RHENIUM OXYCHLORIDE ALUMINUM CHLORIDE, FERRIC CHLORIDE, TANTALUM, V,  
CHLORIDE, NIOBIUM, V, CHLORIDE, MOLYBDENUM OXYCHLORIDE, PHOSPHORYL  
AUTHOR-(04)-DROBOT, D.V., KORSHUNOV, B.G., ALEKSANDROVA, V.A., SILINA,  
T.A.

COUNTRY OF INFO--USSR

K

SOURCE--ZH. NEORG. KHIM. 1970, 15(6), 1707-8

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PHASE DIAGRAM, CHEMICAL BINARY SYSTEM, OXYGEN COMPOUND,  
RHENIUM COMPOUND, CHLORIDE, IRON COMPOUND, MOLYBDENUM COMPOUND, TANTALUM  
COMPOUND, NIOBIUM COMPOUND, ALUMINUM COMPOUND, PHOSPHOROUS COMPOUND,  
EUTECTIC

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3008/1186

STEP NO--UR/0078/70/015/006/1707/1708

CIRC ACCESSION NO--AP0138201

UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0138201  
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PHASE DIAGRAMS OF REOCL SUB4 A IA  
EQUALS FECL SUB3, RECL SUB5, TACL SUB5, NBCL SUB5, NCCL SUB3, MOOCL  
SUB4, AND POCL SUB3) ARE CONSTRUCTED. THE BINARY SYSTEM CONTG. POCL  
SUB3 FORMS REOCL SUB4 POCL SUB3, CONGRUENTLY M. 80DEGREES. THIS  
COMPOUND FORMS EUTECTICS CONTG. 3 AND 80 MOLE PERCENT REOCL SUB4, M.  
NEGATIVE 10 AND 16DEGREES, RESP. THE REMAINING SYSTEMS FORMED ONE  
EUTECTIC EACH CONTG. ALMOST PURE REOCL SUB4 AND ALL M. 29DEGREES.  
FACILITY: MOSK. INST. TONKOI KHIM. TEKHNOL IM. LOMONOSOVA, MOSCOW,  
USSR.

UNCLASSIFIED

USSR

UDC 621.382.2

SIROTA, N. N., KOASHUNOV, N. F., GATAI'SHIV, J. V., and ZONOM, G. V.

"Effect of Neutron Irradiation on Silicon Carbide p-n Junctions"

Minsk, Izvestiya Akademii Nauk BSSR, No. 3, 1971, pp 109-111

**Abstract:** This brief communication describes experiments performed in irradiation by reactor neutrons of p-n junctions of  $\alpha$ -SiC with electronic conductivity. The junctions were obtained by diffusion of aluminum and boron. The original SiC crystals had a resistivity of  $1 \cdot 10^{-1}$  to  $1 \cdot 10^{-2}$  ohm cm. Irradiation by the fast neutrons was done in the IKT-2000 reactor of the Belorussian Academy of Sciences, at a temperature of  $60^{\circ}$  C, with the thermal neutrons cut out by a cadmium filter. The intensity of the fast-neutron current was  $4 \cdot 10^{10}$  neutrons/cm<sup>2</sup> sec. The effect of the neutrons on the volt-ampere and light characteristics of the p-n junctions was studied. Curves are plotted for the effect of the irradiation on the forward and reverse sections of the volt-ampere characteristic, for the effect of the irradiation on the spectral characteristic of the recombination glow, and for the change in integral intensity of the recombination glow as a function of the forward current before and after irradiation by various neutron doses.

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USSR

SIROTA, N. N., et al, Izvestiya Akademii Nauk BSSR, No. 3, 1971,  
pp 109-111

It is noted that the volt-ampere characteristics changed markedly after irradiation by fast neutrons of a dosage greater than  $1 \cdot 10^{14}$  neutrons/cm<sup>2</sup>, and that the spectral and integral characteristics of the electroluminescence show a monotonic drop in the glow intensity with increasing neutron dosages. The authors are members of the Institute of Solid State and Semiconductor Physics, Academy of Sciences, BSSR.

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USSR

UDC 621.382.2

SIRGTA, N.N., IVANOV, G.M., KORSHUNOV, E.P., KOSOLAPOV, N.N.

"Effect Of Electron Irradiation On P-N Junctions In Silicon"

V sb. Radiatsion. fiz. nemet. kristallov (Radiation Physics Of Non-Metallic Crystals--Collection Of Works), Minsk, "Nauka i tekhn.," 1970, pp 136-141 (from RZh--Elektronika i yeye primeneniye, No 2, February 1971, abstract No 2B131)

Translation: The irreversible changes of the voltampere characteristics of p-n junctions in Si on exposure to irradiation by electrons with energies of 10--25 Mev are investigated. It is established that at low injection levels the forward voltage drop after irradiation is decreased, which is explained by the reduction of concentration and lifetime of the majority charge carriers in the p- and n-regions. At high injection levels, as a result of an increase of resistance of the base during irradiation, its effect on the form of the characteristics becomes noticeable. With an increase of the temperature, equal changes of the forward drop begin with large flux density. The effectiveness of the action of irradiation by electrons on the forward characteristics grows with an increase of the energy of the electrons, while the back characteristics remain practically without change. 6 ill. 6 ref. V.M.

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UDDO 601.382

USSR

KORSHUNOV, F. P.

"Radiation And Semiconductors"

Prom-st' Belorussii (Belorussian Industry), 1970, No 5, pp 81-82 (from  
RZh-Elektronika i yeye primeneniye, No 11, November 1970, Abstract No 11812)

Translation: Basic information on radiation effects in semiconductors and semiconductor devices is presented in a popular form. V.M.

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UDD 537.311.33:546.28

USSR

SIROTA, N.N., KORSHUNOV, F.P., RAYNES, L.YU.

"Investigation Of Radiation Effects On Semiconductor Crystals And P-N Junctions"

V sb. Radiatsion. fiz. nemet. kristallov (Radiations Physics Of Nonmetal Crystals--Collection Of Works), Minsk, Nauka i tekhn., 1970, pp 6-17 (from RZh--Elektronika i vye primeneniya, No 1, January 1971, Abstract No 1B123)

Translation: The effect is studied of neutron irradiation on single crystals of Si and the p-n junctions prepared on their base. The radiation defects are determined which play a dominant role in the change of the electrical properties in Si in the process of irradiation by fast neutrons. It is also shown that an increase of resistance of the base of the p-n junctions during the time of irradiation leads to attenuation of modulation of its conductivity and to a decrease of the forward current. The overall dependences mentioned make it possible to clarify the process of change of the volt-ampere characteristics of the p-n junction. It is established that irradiation leads to a decrease of the contact potential differences and the displacement of the p-n junction to the side of the high-resistance base.  
10 ill. 24 ref. Author's abstract.

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Industrial

USSR

KORSHUNOV, G. S., KISELEV, G. A., Tomsk

"On Possibility of Using Water as Working Medium of Nanosecond Peaking Discharger"

Moscow, Electronnaya Obrabotka Materialov,  
No. 1 (37), 1971, pp 40-45

**Abstract:** The use of electric spark in water is becoming common for crushing and pulverizing rock and other purposes.

The experimental investigation of the spark gap in water has been conducted in order to explore the possibility of reducing the duration of the high-voltage pulse to several nanoseconds. A coaxial discharger with water circulation was used. Oscillograph records of pulses were taken. The pulse amplitude and the duration of the pulse

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USSR

KOPSHUNOV, G.S., et al, Electronnaya Obrabotka Materialov, No 1 (37), 1971,  
pp 40-45

front decreased with the increase of the spark gap.  
Experimental and calculation results of the spark voltage  
as a function of circuit impedance/spark gap resistance  
ratio agreed closely.

It is concluded that it is possible to use a water  
spark gap for nanosecond peaking of the high-voltage  
pulse front.

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USSR

UDC 615.217.4(Gangleronum).015.45:612.115+612.128

GEORGIYEVA, S. A. and KORSHUNOV, G. V., Dept. of Human Physiology, Saratov Medical Institute

"Effect of Gangleron on the Hemocoagulation and Cholinesterase Properties of the Blood"

Moscow, Farmakologiya i Toksikologiya, No 5, Vol XXXIV, Sup-Off 71, pp 591-593

**Abstract:** The effects of gangleron in doses of 3 mg per kg of body weight were observed in 96 rabbits. Hypocoagulative changes, and a rise in blood heparin level, were produced, and persisted up to 3 hours following administration of the drug; increase in whole-blood cholinesterase activity also appeared, and persisted for 3 or 4 hours or even longer. However, there were sharp differences between individual animals as regards these effects.

It is concluded that there are close functional bonds between the hemocoagulation and the acetylcholine-cholinesterase systems, as is also suggested by the action of certain other drugs.

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USSR

UDC 541.49:546.791.6 + .547.466 + 661.7

SERGEYEV, G. M., and KORSHUNOV, I. A.

"Characteristics of the Reaction of Uranyl Ion With Aminoacids and Complexons"

Leningrad, Radiokhimiya, Vol 15, No 4, 1973, pp 621-623

**Abstract:** The aim of this study was to find the relationship between the stability of the complex ions of hexavalent uranium and characteristic structures of some aminoacids and complexons. The stability of several aminoacid complexes of uranyl have been tabulated. As the number of methylene groups in the aminoacids is increased, so is the destabilization effect of the complex ion. The stability of the complexes of similar polydentant reagents is increased with increased number of chelating rings: glycinate, nitrilotriacetate, ethylenediaminodiacetate, as far as their stability is concerned. Maximum saturation of the coordination capacity of a metal ion occurs in case of uranyl ethylenediaminodiacetate.

1/1

1/2 007 UNCLASSIFIED PROCESSING DATE--02OCT70  
TITLE--DETERMINATION OF THE NUMBER OF ELECTRONS TAKING PART IN THE  
ELECTROOXIDATION OF STERICALLY HINDERED PHENOLS USING AN ANDIC  
AUTHOR-(03)-KORSHUNOV, I.A., VODZINSKIY, YU.V., VASILYeva, A.A.

COUNTRY OF INFO--USSR *K*

SOURCE--ELEKTROKHIMIYA 1970, 6(2) 277-80

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ELECTROLYTIC OXIDATION, PHENOL, ELECTRODE POLARIZATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1989/0463

STEP NO--UR/0364/70/006/002/0277/0280

CIRC ACCESSION NO--AP0107069

UNCLASSIFIED

2/2 007

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION N<sup>o</sup>--AP0107069

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. POLARIZATION CURVES WERE OBTAINED ON A REVOLVING ELECTRODE WITH A CLEARLY EXPRESSED AREA OF CRIT. CURRENT. WITH ALL COMPODS. STUDIED ONE ELECTRON TRANSITION TAKES PLACE IN A NEUTRAL AND ALK. MEDIUM. ON THE POLAROGRAMS UNDER THESE CONDITIONS THERE IS ONLY ONE WAVE. IN AN ACIDIC MEDIUM 2,4,6-TRI-TERT-BUTYLPHENOL AND 2,6-DI-TERT-BUTYL-4-METHYLPHENOL SHOW 2 CLEARLY SPED. WAVES. THE NO. OF ELECTRONS CALCD. FROM THE 1ST WAVE IS CLOSE TO ONE. ELECTROOXIDN. OF 4,4 PRIME -THIOBIS(6-TERT-BUTYL-2-METHYLPHENOL), 4,4 PRIME -THIOBIS(6-TERT-BUTYL-3-METHYLPHENOL), 2,2 PRIME -THIOBIS-6T-TERT-BUTYL-4-METHYLPHENOL, DICRESYLPROPANE ON A STATIONARY ELECTRODE AT PH 2 PRODUCES ONE WAVE CORRESPONDING TO A 2 ELECTRON TRANSITION. WITH 2, 2 PRIME -METHYLENEBIS(6-TERT-BUTYL-4-METHYLPHENOL) IN AN ACIDIC MEDIUM, 2 BADLY SPED. WAVES ARE FOUND. WITH A REVOLVING ELECTRODE THE SEPN. OF THE WAVES IS RATHER DISTINCT, HOWEVER. ELECTROCHEM. GENERATION OF PHENOXYL RADICALS SHOWS THAT THE 2ND WAVE APPEARS OWING TO THE OXIDN. OF THE PHENOXYL RADICALS ADSORBED ON THE ELECTRODE.

UNCLASSIFIED

USSR

UDC 576.851.55.095.2

AZOVA, L. G., GUSEV, N. V., KHOR'KOVA, G. A., and KORSHUNOV, I. S., Moscow State University

"Molecular Oxygen Uptake by Cell Suspensions of Clostridium butyricum"

Moscow, Mikrobiologiya, No 5, 1971, pp 799-802

**Abstract:** The rate of oxygen uptake by *Clostridium butyricum* strains MO-1, BC-6K, and USA in phosphate buffer was found to vary both with the initial concentration of dissolved oxygen and with the density of the cell suspensions. It was particularly high in the MO-1 and USA strains in the lag phase. At high initial oxygen concentrations (7.0 to 10.0 mg/liter) the MO-1 and USA strains took up 2.5 to 3.0 times more oxygen than did the BC-6K strain. An increase in the cell concentration reduced the rate in all cases. Preliminary incubation of the cell suspensions with oxygen greatly reduced the rate of uptake by the MO-1 and USA strains but had no effect on that of the BC-6K strain.

1/1

USSR

UDC 541.14:541.13

KORSHUNOV, L. I., ZOLOTOVITSKIY, YA. M., and BENDERSKII, V. A., Institute of Chemical Physics, USSR Academy of Sciences, Moscow

"photoelectric Effect at a Metal-Electrolyte Interface"

Moscow, Uspekhi Khimii, Vol XL, 1971, pp 1511-1535

**Abstract:** Recent studies in England and the USSR have made it possible to distinguish elementary events underlying the electrode photoeffect, which is a phenomenon of great theoretical and practical interest. The present survey is aimed at elucidating the elementary processes involved in photo-transfer of a charge through the metal-electrolyte interface (1) in solutions not absorbing light in the part of the spectrum used for excitation of the electrode, and (2) in solutions of photochemically active redox systems, when light is absorbed by the dye solution. Various solutions ( $K_2SO_4$ , KCl,  $NaNO_3$ , etc.) are studied photochemically. Complete graphical data illustrating the course of the experiments accompany the paper.

1/1

1/2 009 UNCLASSIFIED PROCESSING DATE--02OCT70  
TITLE--METHACRYLIC ESTERS OF SULFUR CONTAINING GLYCOLS -U-

AUTHOR--(05)-RODNYUK, F.N., KORSHUNOV, M.A., VARSHAVSKIY, S.L.,  
VIKHANSKIY, K.N., CHASKINA, L.B.  
COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 264,392  
REFERENCE--CTKRYTIYA, IZJRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,  
DATE PUBLISHED--03MAR70

K  
SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL PATENT, CHEMICAL SYNTHESIS, ORGANIC SULFUR COMPOUND,  
ESTER, GLYCOL, METHACRYLATE, POLYMERIZATION INHIBITION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1993/0022

STEP NU--UR/0482/10/00/000/000/000

CIRC ACCESSION NO--A00113022  
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--02OCT70

2/2 009

CIRC ACCESSION NO--AA0113022  
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE COMPOS. ARE PREPD. BY  
TREATING S CONTG. GLYCOLS. WITH ALKYL METHACRYLATES IN THE PRESENCE OF  
POLYMN. INHIBITORS AND ALKALI OR ALK. EARTH METAL ALCONOLATES. -U-

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UNCLASSIFIED